:Beaglehole and Beaglehole E-5 (1934-5)1938 Pukapukans



and talo are scarce. At the present time, the island water supply from concrete cisterns is rationed out to the families of the island from July until the first heavy rains.

The seasonal changes, though important for living conditions, have not involved any great seasonal rhythm of labor. Whereas house repairing for the western village is in October and November, that for the eastern village is in April and May, when the steady winds blow from the south and east. There is a tendency to reserve activities centered round the building of new houses and canoes for the cooler midyear months, and at the beginning of this period there is a spurt of building in all villages. Other activities go on throughout the year. Twice each year, depending on the maturity of the plants, all the talo beds on Wale and Motu Ko are fertilized. With the arrival of May and the beginning of the best deep-sea fishing, there is a general repairing of the fishing gear, including canoes, paddles, hooks, fishline, and anchor line. Today there is seasonal activity in copra making, the people from each village going to their respective reserves from March to April, and a second time from August to September.

## Water

Water for domestic use was formerly obtained exclusively from seep holes and wells sunk close to the beach above high tide level. This slightly brackish water is still used for bathing and other purposes by all three villages when they visit their reserves and, owing to the distant location of a better supply, by most Yato villagers all the time. Today three concrete cisterns on Wale store water draining from the church and courthouse roofs. This water is used for drinking and washing in the rainy season, in the dry season for drinking only.

## Plant Life

The soil of the whole atoll is poor, mostly infertile sand and coral gravel, and in consequence vegetation is sparse. Tropical bush grows luxuriantly in a few sections. Of the food plants, coconuts grow well, but talo and bananas grow only in excavated pits that have been filled with plant material and must be fertilized with leaves and ferns twice each year. As an aid to growth of bananas, old pieces of iron are buried among the roots. A few papaya and limes grow on Motu Kotawa. The kava plant (*Piper methysticum*) does not grow on the atoll. Specimens of all plants growing in Pukapuka, as identified by Marie C. Neal, E. H. Bryan, Jr., and F. Raymond Fosberg, are recorded in the following list:

2:Macgregor E-2 (1933) 1935 Pukapukans



## Physical Characteristics

At the time of our visit at Pukapuka the natives were living away from the village. For this reason it was impossible to make a series of physical measurements. The following notes sum up the observations made of those natives who came in from time to time to see our party.

The composition of the features differs from that of Samoans, Tongans, and western Polynesians. The faces of many Pukapukans closely resemble natives in the Tokelau Islands, a similarity that is startling in many individuals. Many Samoans have an Oriental cast of countenance in their high cheek bones and upward-tilted eyes, which frequently have a trace of an epicanthic fold. Most of the natives at Pukapuka have high malars and wide, deep-set eyes with no trace of the epicanthic fold. Prognathism is absent. Brow ridges are of medium thickness and the glabella is prominent, as compared with these features in Samoans and Tongans. I saw one markedly convex nose and several that were slightly convex. Many noses are long and relatively narrow for Polynesians, and many have sharply flaring alae, characteristic of Tongans. The root is low and concave. The lips varied from thin to exceptionally thick and everted, but the thick type is the commoner one. The hair is black, varying from a medium to a deep wave. The men have a medium beard, heavier than is common among Samoans. The skin color of the face is exceptionally dark for Polynesians, but this may be due to life on an atoll where a great deal of time is spent on the water and exposed to the sun. Both men and women had the upper parts of their bodies clothed, so I was unable to observe less-exposed parts of the body. The women were short for Polynesians and much shorter than the men.

## Geography

The atoll of Pukapuka (latitude 10° 53′ S., longitude 165° 50′ W.) lies about 390 miles northeast of Samoa. Its nearest neighbor is Nassau Island, 45 miles southeast, an atoll which formerly had a native population but is at present occupied by a European planter and laborers from Pukapuka and Ellice Islands.

Pukapuka consists of three islets and a few small sand keys which together form a rough triangle with the apex to the north (fig. 1). The northern islet, Pukapuka, is about a mile wide. The entire population lives along the southern or lagoon shore of this islet. Motu Koe (Ko) and Motu Kotava (Katava, Kavata) are planted with coconuts, taro, and fruit trees, and are reserved solely as plantations. Each has a small settlement of shelters and houses which are used during the harvesting periods. Bryan (1) reports that the western end of Motu Kotava has one of the most luxuriant growths of vegetation on any atoll in western Polynesia.